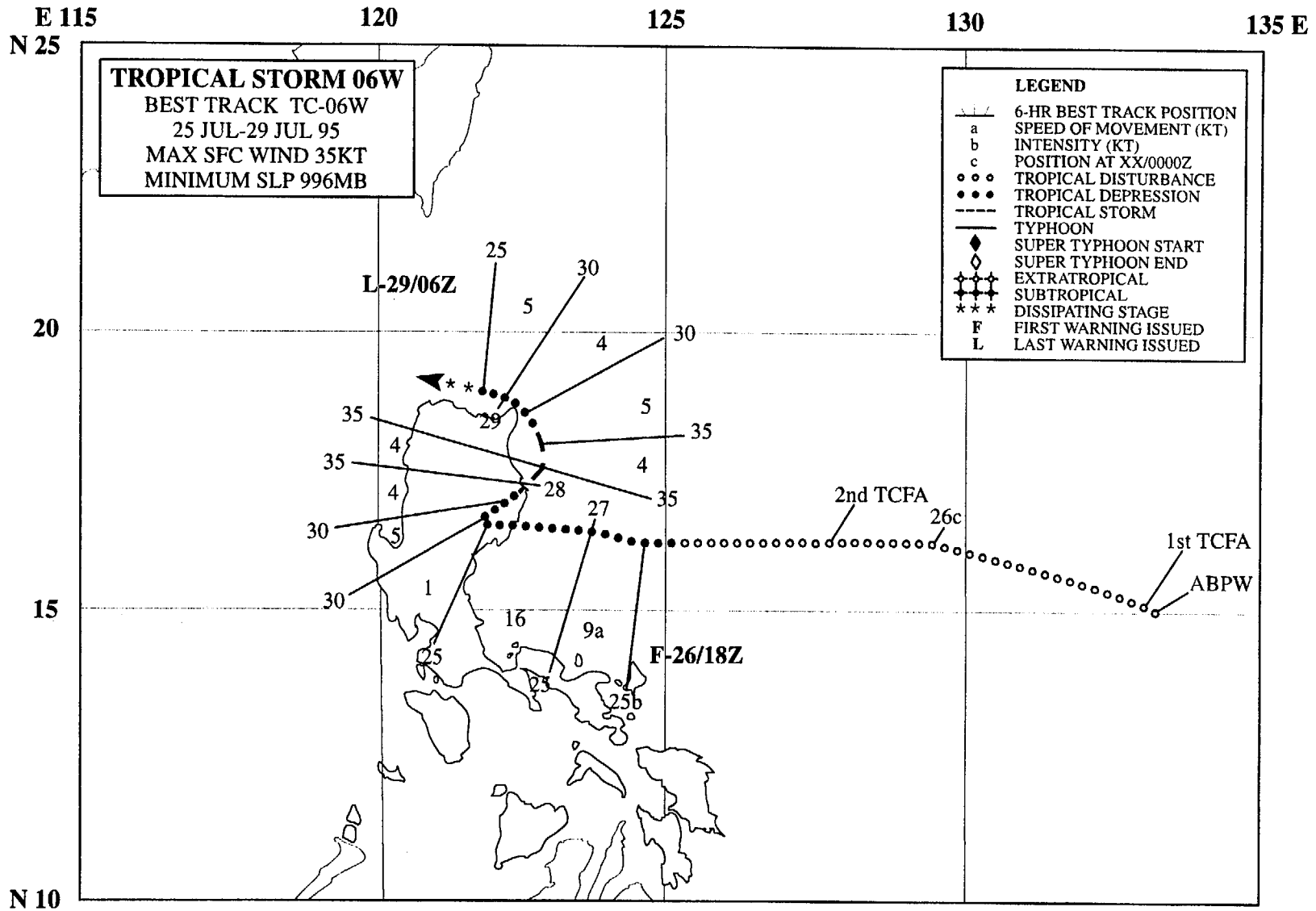
E 115
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TROPICAL STORM 06W
BEST TRACK TC-06W
25 JUL-29 JUL 95
MAX SFC WIND 35KT
MINIMUM SLP 996MB
LEGEND
6-HR BEST TRACK POSITION
a SPEED OF MOVEMENT (KT)
b INTENSITY (KT)
c POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
SUBTROPICAL
DISSIPATING STAGE
F FIRST WARNING ISSUED
L LAST WARNING ISSUED
L-29/06Z
F-26/18Z
2nd TCFA
1st TCFA
ABPW
26c
25b

TROPICAL STORM 06W

I. HIGHLIGHTS

In postanalysis, Tropical Depression 06W was upgraded to tropical storm intensity based upon scatterometer data from the European Space Agency's remote sensing (ERS-1) satellite. These data indicated that an area of 35 kt (18 m/sec) wind speed accompanied Tropical Depression 06W as it moved northward just off the east coast of Luzon on 28 July. Conventional visible and infrared satellite imagery also supported the post-event upgrade. Tropical Storm 06W merged withTropical Storm Gary (07W) during a time when both of these tropical cyclones were embedded within the circulation of a larger monsoon depression, and while both were affected by the island of Luzon.

II. TRACK AND INTENSITY

The tropical disturbance that became Tropical Storm 06W began as a large area of disturbed weather near the Mariana Islands. This tropical disturbance was first mentioned on the 230600Z July Significant Tropical Weather Advisory. Moving westward as a large weak monsoon depression, the convection in this tropical disturbance expanded as it approached the Philippines. On 25 July, a smaller area of deep convection, within the confines of the larger monsoon depression, became focused near a poorly defined low-level circulation center. A Tropical Cyclone Formation Alert (TCFA) was issued at 250800Z July based upon expectations that this area of deep convection would continue to develop and become a significant tropical cyclone within 24 hours. When the system failed to intensify, a second TCFA was issued at 260800Z. The first warning on 06W, valid at 261800Z, was issued by JTWC when the amount of deep convection increased and lines of deep convective cloud began to exhibit increased cyclonic curvature.

On 27 July, 06W moved ashore on the east coast of the island of Luzon. At this time, the synoptic situation became more complex, as the larger scale circulation of the monsoon depression, within which 06W was embedded, began to be affected by the island of Luzon. In addition to Tropical Storm 06W, there was evidence that a second circulation was forming in the South China Sea just off the northwest corner of Luzon. This second circulation became Typhoon Gary (07W). In response to a surge in the southwest monsoon, coupled with an interaction with the developing Gary (07W), 06W stalled over land on the eastern side of Luzon, and then moved northeastward back over water.

As visible satellite imagery became available on the morning of 28 July, it indicated that the low-level circulation center of Tropical Storm 06W had moved back over water east of Luzon. At 280000Z, JTWC relocated the center of 06W. During the daylight hours of 28 July, the well-defined, exposed, low-level circulation center of 06W (Figure 3-06-1) moved northward, over water, east of Luzon (it was at this time that scatterometer winds obtained from the ERS-1 satellite indicated that the wind speeds associated with 06W had reached tropical storm intensity — see the discussion section for more details). For several hours, later in the day, a circular area of deep convection developed in association with the low-level circulation center (Figure 3-06-2). During the night of 28 July, and into the morning of 29 July, the convection associated with 06W moved on a cyclonically curved track around the northeastern coast of Luzon, and was absorbed into cloud bands associated with the developing Gary (07W). The Prognostic Reasoning Message accompanying the 290000Z July warning stated:

". . . 06W is becoming more disorganized as the circulation to the west of Luzon (Tropical Depression 07W) becomes more dominant. Synoptic data around Luzon also shows the western circulation [TD 07W] affecting most of the monsoon flow over this region. However, synoptic data . . . still

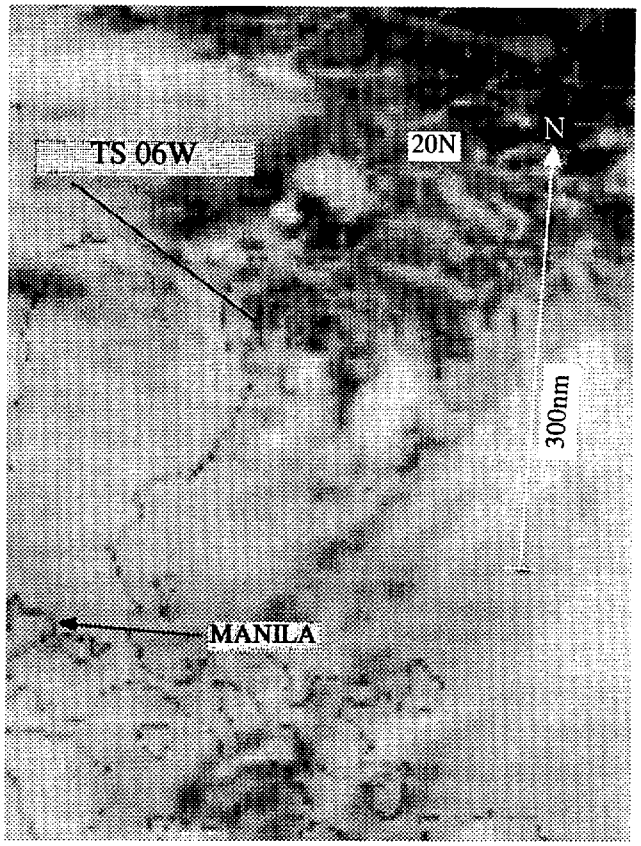

Figure 3-06-1 The well-defined and tightly wrapped low-level cloud lines of the exposed circulation of Tropical Storm 06W are seen just east of Luzon (280031Z July visible GMS imagery).

support a 999 mb circulation just north of the island of Luzon. . . ."

The final warning on Tropical Storm 06W was issued at 290600Z when, according to remarks on the warning:

". . . Latest satellite and synoptic data reveal that the surface circulation that was once ....06W has become completely entrained into the large circulation of TD 07W . . ."

III. DISCUSSION

TD 06W— an unnamed tropical storm

While 06W was moving northward, over water east of Luzon on 28 July (see Figures 3-06-1 and 3-06-2), the scatterometer aboard the ERS-1 spacecraft obtained a pass directly over the circulation center (Figure 3-06-3). Wind speeds of 35 kt (18 m/sec) were indicated by the scatterometer in the vicinity of 06W. In postanalysis, these scatterometer-derived wind speeds, and also synoptic data supporting an estimated central sea-level pressure of 996 mb, were used to upgrade the estimated peak intensity of 06W to 35 kt (18 m/sec). Figure 3-06-3 is a classic example of the wind direction algorithm used to process the scatterometer data failing on its first guess. This resulted in all the wind directions being plotted 180° out of phase — e.g. the wind field that curves anticyclonically is in reality cyclonically curved.

Over the past several years, the JTWC has been receiving and evaluating unconventional sources of remotely sensed marine wind speeds (e.g., the scatterometer-derived winds, and the SSM/I wind speeds). These scatterometer winds, from JTWC's perspective, are sufficiently accurate to be a useful tool in diagnosing the structure of the low-level wind field within and near tropical cyclones.

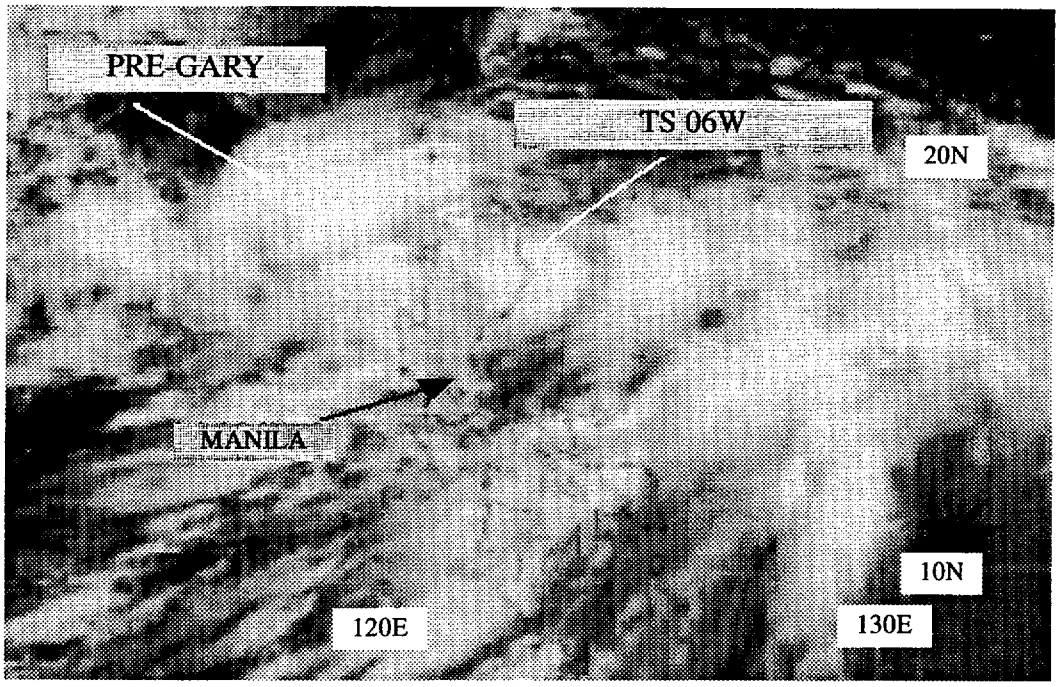

Figure 3-06-2 Deep convection has formed at the center of Tropical Storm 06W. Gary (07W) can be seen forming northwest of Luzon (280424Z July visible GMS imagery).

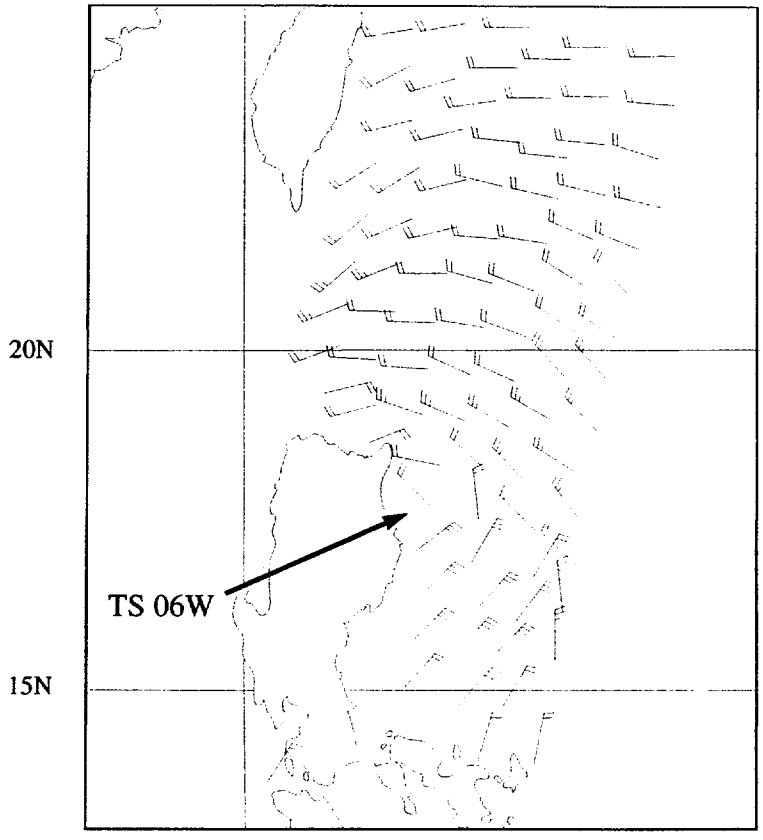

Figure 3-06-3 Scatterometer-derived wind speeds in a swath that passed over 06W (280214Z July ERS-1 scatterometer-derived marine surface wind speeds). The 35-kt (18-m/sec) wind speeds define the center of TS 06W. (The wind direction algorithm's first guess resulted in all the wind directions being 180 degrees in error).

IV. IMPACT

No reports of damage or injuries were received.